

APPENDIX F
ITR DOCUMENTATION

STATEMENT OF TECHNICAL AND LEGAL REVIEW
COMPLETION OF INDEPENDENT TECHNICAL REVIEW
BAL HARBOUR DESIGN MEMORANDUM

The District has completed the review of Bal Harbour Design Memorandum. This is a Beach Erosion Control and Hurricane Protection Project. Notice is hereby given that an independent technical review has been conducted that is appropriate to the level of risk and complexity inherent in the project, as defined in the Quality Control Plan. During the independent technical review, compliance with established policy, principles, and procedures utilizing justified and valid assumptions were verified. This included review of assumptions; methods, procedures and material used in the analysis; alternatives evaluated; the appropriateness of data used and level of data obtained; and reasonableness of the results, including whether the product meets the customer's needs consistent with law and existing Corps policy. The following Jacksonville and Charleston District personnel accomplished the independent technical review:



Rafael A. Velez, CESAJ-EN-T

12/12/05
Date



Karl J. Nixon, CESAJ-RE-S

28 SEPT 04
Date




Phillip C. Bates, CESAJ-CO-CO

28 SEP 04
Date




Brooks W. Moore, CESAJ-OC

12/12/05
Date



Brian N. Hughes, PE, CESAJ-EN-DL

27 Sep 2004
Date



Manjiang Zhang, Ph.D., PG CESAJ-EN-GG

10/5/04
Date

(See attached fax)

Jeffery W. Fersner, CESAC-TS-DC

Date

Lori L. Hadley, CESAJ-EN-HC

10-12-04
Date

Ed H. Hodgins, PE, CESAJ-EN-HC

10/12/04
Date

William J. Fonferek, CESAJ-PD-EG

10/14/04
Date

CERTIFICATION OF INDEPENDENT TECHNICAL REVIEW

As noted above, all concerns resulting from the independent technical review of the project have been mutually resolved and comments incorporated. The report and all associated documents required by the National Environmental Policy Act have been fully reviewed.

Stuart J. Appelbaum
Chief, Planning Division

12/16/05
Date

Stephen C. Duba
Chief, Engineering Division

12/14/05
Date

Bart J. Wivell
Chief, Real Estate Division


12/14/05
Date

Alan Bugg
Chief, Con-Ops Division

15 Dec 05
Date

CERTIFICATION OF LEGAL REVIEW

The Bal Harbour Design Memorandum report, a beach erosion control and hurricane protection project, including all associated documents required by the National Environmental Policy Act, have been fully reviewed by the Office of Counsel, Jacksonville District and is approved as legally sufficient.



District Counsel

12/14/2005

Date

**DADE COUNTY, FLORIDA
BEACH EROSION CONTROL AND HURRICANE PROTECTION PROJECT
BAL HARBOUR DESIGN MEMORANDUM**

15 SEPTEMBER 2004

INDEPENDENT TECHNICAL REVIEW

Comments by Manjiang Zhang

(DM.main1.pdf, Physical Data, Water Levels)

Bal Harbour DM_ITR-MZ-01.

On page 14, the second paragraph, the second sentence:

"The most severe condition a beach renourishment project will usually be subjected to will be a combination of astronomical high tide coupled with storm surge, while being subjected to storm wave attack. "

Action required: Please re-word this sentence.

From Tom Martin

Response: Minor rewording added.

(DM.main1.pdf, Summary of Physical Data, Site Description)

Bal Harbour DM_ITR-MZ-02.

On page 69, the fourth line: "This process is can be seen in ..."

Action required: Delete is from the sentence

From Tom Martin

Response: Concur. Text corrected.

(Appendix B)

Bal Harbour DM_ITR-MZ-03.

On page 3, the last paragraph, the first sentence: "The quartz component of the modern barrier island sand is quartz sand that has migrated southward..."

Action required: Change it to: "The quartz sand that comprises the modern barrier island has migrated southward..."

From Gary Holem

Response:: Do not concur. The sentence is correct.

(Appendix B)

Bal Harbour DM_ITR-MZ-04.

On page 4, the seventh paragraph, the second sentence: "The sand filled swales between the rock reefs is of a thickness and quality that it has been used as a primary borrow source from Dade to Palm Beach County".

Action required: Change it to: "The sand filled swales between the rock reefs has the thickness and quality required for sand source, and has been used as a primary borrow source from Dade to Palm Beach County".

**DADE COUNTY, FLORIDA
BEACH EROSION CONTROL AND HURRICANE PROTECTION PROJECT
BAL HARBOUR DESIGN MEMORANDUM**

15 SEPTEMBER 2004

INDEPENDENT TECHNICAL REVIEW

Comments by Manjiang Zhang

From Gary Holem

Response: Do not concur. The sentence is correct.

Bal Harbour DM_ITR-MZ-05.

On page 10, the second paragraph, the second sentence: "The overall potential is demonstrated by the presence of 12 to 15 feet of sediment thickness overlying the ...".

Action required: Change it to: "...the presence of 12 to 15-ft thick sediment overlying the...".

From Gary Holem

Response: Do not concur. The sentence is correct.

Bal Harbour DM_ITR-MZ-06.

Page 14, the second sentence from the top: "(Sediment recovered...

Action required: Delete the (

From Gary Holem

Response: Concur.

(Appendix B)

Bal Harbour DM_ITR-MZ-07.

Page 14, the second paragraph & the sub-title Zone 3

Action required: Put a space between the last line of the second paragraph and Zone 3.

From Gary Holem

Response: Concur.

Bal Harbour DM_ITR-MZ-08.

Page 14, the last paragraph, the first sentence: "Cores 20 and 21 from the deeper area contained higher sand percentages and lower percentages of gravel and rock ..."

Action required: Change to: "...contained higher percentage of sand and lower percentage of gravel and rock..."

From Gary Holem

Response: Do not concur. The sentence is correct.

**DADE COUNTY, FLORIDA
BEACH EROSION CONTROL AND HURRICANE PROTECTION PROJECT
BAL HARBOUR DESIGN MEMORANDUM**

12 DECEMBER 2005

INDEPENDENT TECHNICAL REVIEW

Comments by Brooks W. Moore

Bal Harbour DM_ITR-BWM-01.

Did we consult with FWS pursuant to Section 7 of the Endangered Species Act? We talk about possible impacts to endangered species but not ESA consultation.

Action required: Provide communication documents.

From Bill Lang

Response: The September 23, 2005 U.S. Fish and Wildlife Service Biological Opinion, for the subject project is contained in Appendix C of the September 2005, Findings of No Significant Impact and Environmental Assessment.

Bal Harbour DM_ITR-BWM-02.

I see no mention on CZMA in the EA. I see that Appendix A is the consistency evaluation (I don't have a copy), but consistency is not mentioned in the EA. May I have a copy of the consistency determination?

Action required: Provide copy of consistency determination.

From Bill Lang

Response: CZM Consistency Statement attached.

Bal Harbour DM_ITR-BWM-03.

Why is this called a Design Memorandum? I'm trying to fit this in a box, and looking at ER 1105-2-100, I would have thought this might be a DDR or EDR. Just curious.

Action required: Possibly change report title.

From Tom Martin

Response: According to the provisions of ER 1105-2-100, this report will be called a Detailed Design Report (DDR). The title of the report has been changed accordingly.

**DADE COUNTY, FLORIDA
BEACH EROSION CONTROL AND HURRICANE PROTECTION PROJECT
BAL HARBOUR DESIGN MEMORANDUM**

15 SEPTEMBER 2004

INDEPENDENT TECHNICAL REVIEW

Comments by Jeffery W. Fersner

Cost Estimate

Bal Harbour DM_ITR-JD-01: General comment on page 131 of the design memorandum in the second paragraph from the top, the sentence "The plan that best fulfilled these project requirements was option S-3, (construction T-head rubble-mound groin field) in combination with option S-1 (continued renourishment...", the S-1 should be B-1.

Action required: Change S-1 to B-1 in second paragraph on page 131.

Response: Concur. The report will be changed to show the correct alternative.

Bal Harbour DM_ITR-JD-02: In the backup material provided, an estimate (BDF111hopperosborrows.xls) by B. Blake for off shore deep water hopper dredging gives a cost of \$18.10 per CY based on 2001 area factors and fuel costs. If these factors are brought up to present day, the cost per CY goes to \$19.04. The estimate in the recommended plan (BDF499OS2.xls) gives a cost of \$7.54 per CY for the off shore dredging. The biggest difference between the two estimates appears to be the distance traveled from the dredging area to the disposal site. In the backup estimate, the distance is 60 miles and in the estimate for the recommended plan, the distance is 7 miles.

Action required: Determine the true distance from the project area to the deep water borrow area and adjust the estimate as needed.

Response: Concur. The project engineer and cost estimator have discussed the difference in distance and agree that the proper distance is seven miles.

Bal Harbour DM_ITR-JD-03: This proposal is being estimated assuming the availability of a deepwater hopper dredge. The notes state that dredging contractors would be willing to obtain a deepwater hopper if the business made it financially advantageous for them. This project, which would only requires dredging for renourishment every 8.5 years, would not be adequate business to make this type of purchase financially feasible for a dredging contractor.

Action required: Determine if using the deepwater hopper dredge numbers are realistic for the scope of this project.

Response: Concur. Consideration is being given to performing the renourishment using the offshore sites with renourishments for the other Dade County beach project segments. The thought behind this is that it would be realistic to modify a dredge for the large, combined project.

**DADE COUNTY, FLORIDA
BEACH EROSION CONTROL AND HURRICANE PROTECTION PROJECT
BAL HARBOUR DESIGN MEMORANDUM**

15 SEPTEMBER 2004

INDEPENDENT TECHNICAL REVIEW

Comments by Lori L. Hadley and Ed H. Hodgens

DM Main 1

Bal Harbour DM_ITR-(EN-HC)-01. Page 10, 1st Sentence. "...9.8 of shore..." should be changed to "...9.8 miles of shoreline...".

Action required:

From Tom Martin

Response: Concur. Text corrected.

Bal Harbour DM_ITR-(EN-HC)-02. Page 19, Deepwater wave paragraph. Statement that station latitude and longitude provided above is not correct. Where is the latitude and longitude provided?

Action required:

From Tom Martin

Response: Lat/long coordinates were added to text in paragraph.

Bal Harbour DM_ITR-(EN-HC)-03. Page 28, Last paragraph. "...storm is a series..." should read "...storm in a series...".

Action required:

From Tom Martin

Response: Concur. Text corrected.

Bal Harbour DM_ITR-(EN-HC)-04. Page 31, 2nd paragraph. If acronym (STWAVE, ADCIRC, GENESIS) is used for the first time in the report it should be spelled out with acronym letters in caps and bold.

Action required:

From Tom Martin

Response: Concur. Acronyms for STWAVE, ADCIRC, and GENESIS are spelled out in this paragraph.

Bal Harbour DM_ITR-(EN-HC)-05. Page 32, 3rd paragraph. Lidar should be LIDAR LIght Detection And Ranging.

Action required:

From Tom Martin

**DADE COUNTY, FLORIDA
BEACH EROSION CONTROL AND HURRICANE PROTECTION PROJECT
BAL HARBOUR DESIGN MEMORANDUM**

15 SEPTEMBER 2004

INDEPENDENT TECHNICAL REVIEW

Comments by Lori L. Hadley and Ed H. Hodgins

Response: Text is revised in this sentence only, which is the first occurrence of the term "lidar" in this report. The term "lidar" is now a commonly used term (such as 'radar'), so the lower-case spelling is used throughout the remainder of the report. This is consistent with the use of lower-case spelling of 'lidar' on the SHOALS lidar system homepage, and in technical papers by the lidar program director, Mr. Jeff Lillycrop.

Bal Harbour DM_ITR-(EN-HC)-06. Page 34, 2nd paragraph. Eliminate carriage return space in sentence.

Action required:

From Tom Martin

Response: The carriage return in the Adobe document is the result of a transcription error, and does not exist in the Word version of the document, which will be used for printing. The Adobe format was chosen for the format of this review document because of the significantly smaller file size.

Bal Harbour DM_ITR-(EN-HC)-07. Page 38, 2nd paragraph. Replace lidar with LIDAR and CAD with CADD.

Action required:

From Tom Martin

Response: Partially concur. "CAD" was changed to "CADD" throughout the remainder of the report. The term 'lidar' remains in lower-case as per response to comment DM_ITR-(EN-HC)-05 above.

Bal Harbour DM_ITR-(EN-HC)-08. Page 40, Last sentence. Eliminate carriage return space in sentence.

Action required:

From Tom Martin

Response: This is an Adobe Acrobat transcription error. See response to comment DM_ITR-(EN-HC)-06.

Bal Harbour DM_ITR-(EN-HC)-09. Page 46, Table 8. Small text in footnotes is difficult to read.

Action required:

From Tom Martin

**DADE COUNTY, FLORIDA
BEACH EROSION CONTROL AND HURRICANE PROTECTION PROJECT
BAL HARBOUR DESIGN MEMORANDUM**

15 SEPTEMBER 2004

INDEPENDENT TECHNICAL REVIEW

Comments by Lori L. Hadley and Ed H. Hodgins

Response: Concur. This table was enlarged to improve legibility. Also, the Word version of this document provides greater clarity of scanned JPG images (such as table 8) than the PDF version of the document, which was used for this review. The Word version of this report will be posted on the ftp site for review.

Bal Harbour DM_ITR-(EN-HC)-10. Page 51, Paragraph 2, Page 52-53, Figures 12a and 12b. Text on page 51 indicates that coastal community locations will be indicated on figures 12a and 12b. However, community locations as well as R monument labels are missing from the figures.

Action required:

From Tom Martin

Response: Concur. DNR monuments and coastal community locations have been added to figures 12a and 12b.

Bal Harbour DM_ITR-(EN-HC)-11. Pages 59-60, Figures 13a, 13b, 14a, 14b. Smaller text is difficult or impossible to read.

Action required:

From Tom Martin

Response: Each of these figures is a scanned jpg image, and are much more legible in the Word version of the document, which will be used for printing the report. The Word version of the revised report will be posted on the ftp site for concurrence.

Bal Harbour DM_ITR-(EN-HC)-12. Pages 69, Paragraph 1, 3rd sentence - Typo - "This process is can be seen in its initial stages in figure 16e." Remove "is". Also, figures 16e through 16h are placed before they are referenced in the text. This may lead to confusion.

Action required:

From Tom Martin

Response: Partially concur. Typo revised. Do not concur with the suggestion to re-distribute figures 16e through 16h through the text of the report. All project site photos are contained in Figures 16a - 16h (in one location) for ease of reference.

Bal Harbour DM_ITR-(EN-HC)-13. Pages 74, Paragraph 2, 3rd sentence - Typo - "...19,000 cy/yr around Bakers Haulover Inlet and into Ball Harbour was also be used." Should read "...will also be used."

**DADE COUNTY, FLORIDA
BEACH EROSION CONTROL AND HURRICANE PROTECTION PROJECT
BAL HARBOUR DESIGN MEMORANDUM**

15 SEPTEMBER 2004

INDEPENDENT TECHNICAL REVIEW

Comments by Lori L. Hadley and Ed H. Hodgens

Action required:

From Tom Martin

Response: Concur. Text revised.

DM-Main 2: Numerical Modeling

Bal Harbour DM_ITR-(EN-HC)-14. - Page 75, Paragraph 2 - Features that are described (i.e. ebb shoal and shore-parallel reefs) may not be easily seen in Figure 18 by someone not familiar with the region. May be helpful to add text/arrows to Figure 18 to illustrate these features.

Action required:

From Tom Martin

Response: Text and arrows were added to Figure 18 as suggested.

Bal Harbour DM_ITR-(EN-HC)-15. - Page 83, Paragraph 2 - "STWAVE output for the these simulations of storm conditions is provided in Appendix C" is the first reference to this appendix, however the storm results are at the very end of the appendix. Pointing out that the referenced results lie toward the end of the appendix would help avoid confusion.

Action required:

From Tom Martin

Response: Text revised as suggested.

Bal Harbour DM_ITR-(EN-HC)-16. - Page 97, Paragraph 3, 1st Sentence - Typo - "...Dade County shoreline occurs on the Bakers Haulover inlet ebb shoal, where incident wave heights can be increased increases by up to 50 percent...". Remove "increases".

Action required:

From Tom Martin

Response: Text revised.

Bal Harbour DM_ITR-(EN-HC)-17. - Page 100, Paragraph 3 - "The WIS database includes two series of wave records: a primary wave component and a secondary wave component." What do these two components represent in terms

**DADE COUNTY, FLORIDA
BEACH EROSION CONTROL AND HURRICANE PROTECTION PROJECT
BAL HARBOUR DESIGN MEMORANDUM**

15 SEPTEMBER 2004

INDEPENDENT TECHNICAL REVIEW

Comments by Lori L. Hadley and Ed H. Hodgins

of the wave field? A brief mention may help readers understand more about the GENESIS wave input conditions.

Action required:

From Tom Martin

Response: Additional wording was added to indicate that the primary wave component corresponds to long-period swells, and the secondary component corresponds to locally-generated seas.

Plan Formulation

Bal Harbour DM_ITR-(EN-HC)-18. - Page 107 - Between the description of individual alternatives and the section entitled "Preliminary Evaluation of Alternatives", it might be useful to add a table providing the alternative name (i.e. NA-1, S-1, etc...) with a single line description. This would allow for a quick reference to flip to when reading the details of the evaluation section.

Action required:

From Tom Martin

Response: Table added between listing of alternative plans and the section titled "Preliminary Evaluation of Alternatives".

Bal Harbour DM_ITR-(EN-HC)-19. - Page 111, paragraph 2, 3rd sentence - Awkward wording - "These panels are 10 feet long by 1 foot high, and an estimated at 350 panels damaged would be removed and replaced with new panels."

Action required:

From Tom Martin

Response: Wording revised to state : These panels are 10 feet long by 1 foot high, and an estimated 350 damaged panels would be removed and replaced with new panels.

Bal Harbour DM_ITR-(EN-HC)-20. - Page 111, paragraph 2, 2nd to last sentence - Typo - "In addition, the grooves in the existing king piles will required cleaning so that the new horizontal...". Should be "requires"

Action required:

From Tom Martin

Response: Wording changed to "... will require cleaning...".

**DADE COUNTY, FLORIDA
BEACH EROSION CONTROL AND HURRICANE PROTECTION PROJECT
BAL HARBOUR DESIGN MEMORANDUM**

15 SEPTEMBER 2004

INDEPENDENT TECHNICAL REVIEW

Comments by Lori L. Hadley and Ed H. Hodgins

Bal Harbour DM_ITR-(EN-HC)-21. - Page 112, paragraph 3 - "As stated previously the baseline condition for all GENESIS simulations was the post-nourishment configuration, which consists of a 240-foot wide berm, with a 1v: 10h front slope." Is this the same configuration as the "original construction berm" referred to in the Alternative B-1 description on page 105 (1v : 20h)? If yes, the horizontal dimension should be made consistent. If no, it may be useful to differentiate between the two in the descriptions.

Action required:

From Tom Martin

Response: The berm front slopes for all alternative plans of improvement should be 1v : 11h, and the report has been revised accordingly. This is the designated front slope of the construction berm, as well as the average equilibrium slope of the post-nourishment shoreline. The other front slopes were used inadvertently based on past renourishments of the Dade County Federal project. Project monitoring indicates that a 1v : 11h slope is more stable and easier to construct than flatter slopes; this slope is now used for renourishment of all segments of the Dade County project.

Bal Harbour DM_ITR-(EN-HC)-22. - Page 112, paragraph 3, 4th sentence & page 114, last paragraph - Typo? - "...post-nourishment msl line..." Does this refer to mean still water or is it a possible typo that should be mhw or mlw?

Action required:

From Tom Martin

Response: This sentence is correct. MSL refers to "mean sea level". Text has been revised to explain the acronym.

Bal Harbour DM_ITR-(EN-HC)-23. - Page 112, paragraph 3, last 3 sentences - One sentence states that "Due to this effect, groins with lengths approximating the post-nourishment berm width performed the best throughout the renourishment cycle even though they had little effect in the first few years following renourishment." The last sentence then states "Groin lengths shorter than the initial berm width were completely ineffective for the first few years, until shoreline recession exposed the structures." The last sentence leads the reader to believe that the shorter groins are not the best option because they are ineffective in the first few years. However, the optimum groins (of lengths approximating the post-nourishment berm width) are also ineffective in the first few years. May be helpful emphasize that the shorter groin will hold a narrower berm width than the longer groin once the structure is exposed.

**DADE COUNTY, FLORIDA
BEACH EROSION CONTROL AND HURRICANE PROTECTION PROJECT
BAL HARBOUR DESIGN MEMORANDUM**

15 SEPTEMBER 2004

INDEPENDENT TECHNICAL REVIEW

Comments by Lori L. Hadley and Ed H. Hodgins

Action required:

From Tom Martin

Response: The intent of this paragraph was to establish that different groin lengths could be used to control sediment movement to varying degrees along the project area. However, it is acknowledged that the wording of this paragraph was confusing and has been modified to increase clarity. The intent was to establish that longer groins are needed along the north end of the project area to hold material within this highly erosive area, while shorter groins are needed near the southern end of Bal Harbour to allow adequate sediment bypassing.

Bal Harbour DM_ITR-(EN-HC)-24. - Page 113-116 - Graphics showing each of the structural alternative layouts would add a good visual reference for the reader.

Action required:

From Tom Martin

Response: Graphics were added to provide visual references for each of the final structural alternatives. These figures are included as part of the discussion of each alternative in the section titled : "Preliminary Evaluation of Alternatives". A graphic of the historic berm template was included in this section as well.

Bal Harbour DM_ITR-(EN-HC)-25. - Page 117, paragraph 1, last sentence - Typo - "In spite of the many practical difficulties of constructing breakwaters inn this location..." Needs to be "in".

Action required:

From Tom Martin

Response: Text revised as suggested.

Bal Harbour DM_ITR-(EN-HC)-26. - Page 117, paragraph 5, last sentence - The last sentence states "The resulting renourishment interval with the two breakwater segments and two groins was still 7.5 years along the northern...". This implies that there was no change to the interval, but the previous interval was give as about 7 years. Not a significant difference, but may leave the reader wondering if they are comparing the right results.

Action required:

From Tom Martin

**DADE COUNTY, FLORIDA
BEACH EROSION CONTROL AND HURRICANE PROTECTION PROJECT
BAL HARBOUR DESIGN MEMORANDUM**

15 SEPTEMBER 2004

INDEPENDENT TECHNICAL REVIEW

Comments by Lori L. Hadley and Ed H. Hodgens

Response: Concur. Text has been revised to show correct renourishment intervals.

Bal Harbour DM_ITR-(EN-HC)-27. - Page 118, paragraph 3, 3rd sentence - Typo?
- In this sentence, should "... all GENESIS simulations (alternative E-1)..." refer to alternative NA-1 instead of E-1?

Action required:

From Tom Martin

Response: Concur. Text has been revised to "NA-1".

Bal Harbour DM_ITR-(EN-HC)-28. - Page 119, paragraph 5, 2nd to last sentence - Typo - "...where it was not recommended for further investigation to high cost and the adverse..." Should be "due to high cost"

Action required:

From Tom Martin

Response: Concur. Text revised as suggested.

Bal Harbour DM_ITR-(EN-HC)-29. - Page 122, paragraph 2, 2nd to last sentence - Typo - "The berm elevation was formulated based largely existing upland..." should read "based upon largely".

Action required:

From Tom Martin

Response: Concur. Text revised.

Bal Harbour DM_ITR-(EN-HC)-30. - Page 122, paragraph 4, 2nd to last sentence - Typo - "GENESIS modeling shows that a more effective option may be to place material only along the portions project which experience the most rapid erosion" should read "portions of the project".

Action required:

From Tom Martin

Response: Concur. Text revised.

Bal Harbour DM_ITR-(EN-HC)-31. - Page 122, last paragraph. This paragraph refers to "The most promising design for alternative B-2 is..." Should this reference alternative B-3 instead of B-2?

**DADE COUNTY, FLORIDA
BEACH EROSION CONTROL AND HURRICANE PROTECTION PROJECT
BAL HARBOUR DESIGN MEMORANDUM**

15 SEPTEMBER 2004

INDEPENDENT TECHNICAL REVIEW

Comments by Lori L. Hadley and Ed H. Hodgins

Action required:

From Tom Martin

Response: Concur. Text revised as suggested.

Bal Harbour DM_ITR-(EN-HC)-32. - Page 126, paragraph 1, 2nd and 3rd sentences. These sentences refer to eight alternative plans, which were not eliminated. However the previous paragraph and Table 18 both indicate that there are 10 remaining alternatives.

Action required:

From Tom Martin

Response: The referenced text now states that there are nine alternative plans, plus the no-action plan. This is consistent with the alternatives presented in table 18. Note that each beach fill plan considers the use of two separate borrow areas, but each fill configuration is still considered as one alternative.

Bal Harbour DM_ITR-(EN-HC)-33. - Page 129, last paragraph. Maybe useful to add a reminder to the reader that alternative S-3 involved the construction of T-head groins.

Action required:

From Tom Martin

Response: Text was added to briefly describe alternative S-3.

Bal Harbour DM_ITR-(EN-HC)-34. - Page 130, last paragraph, 3rd sentence - Typo - "The wave energy focusing is directed more along southern shoreline of Haulover Park..." should read "along the southern shoreline".

Action required:

From Tom Martin

Response: Concur. Text revised.

Bal Harbour DM_ITR-(EN-HC)-35. - Page 131, paragraph 3. Under the section "General Description of Plan", the text indicates that the recommended plan includes rehabilitation of the existing groin field. This terminology is not consistent with previous alternative descriptions in which alternative S-1 calls for "rehabilitation" of the groins and S-3 (recommended plan) calls for

**DADE COUNTY, FLORIDA
BEACH EROSION CONTROL AND HURRICANE PROTECTION PROJECT
BAL HARBOUR DESIGN MEMORANDUM**

15 SEPTEMBER 2004

INDEPENDENT TECHNICAL REVIEW

Comments by Lori L. Hadley and Ed H. Hodgins

removal of the existing groins and construction of new groins. Terminology should be kept consistent to avoid confusion between alternatives.

Action required:

From Tom Martin

Response: Concur. The word "rehabilitation" was replaced with "reconstruction".

Bal Harbour DM_ITR-(EN-HC)-36. - Page 138, paragraph 1, 2nd sentence - Typo - "Since each of the of the file groins extends..." One "of the" should be removed.

Action required:

From Tom Martin

Response: Concur. Text revised.

Bal Harbour DM_ITR-(EN-HC)-37. - Page 139, paragraph 4, 2nd to last sentence - Typo - "A specification for quality of sediment to be used for renourishment projects in was developed by the..." should read "projects was developed".

Action required:

From Tom Martin

Response: Concur. Text revised.

Bal Harbour DM_ITR-(EN-HC)-38. - Page 140, paragraph 1, 1st sentence - Typo - "...BEC & HP involves rotating between the two most favorable borrow areas: the Bakers Haulover Inlet ebb and the..." should read "Bakers Haulover Inlet ebb shoal".

Action required:

From Tom Martin

Response: Concur. Text revised.

Conclusions

Bal Harbour DM_ITR-(EN-HC)-39. - Page 141 - Under the "Conclusions" section, emphasis is placed on the identification and selection of borrow sites for the project. Conclusions should also include a summary of the specific Bal

**DADE COUNTY, FLORIDA
BEACH EROSION CONTROL AND HURRICANE PROTECTION PROJECT
BAL HARBOUR DESIGN MEMORANDUM**

15 SEPTEMBER 2004

INDEPENDENT TECHNICAL REVIEW

Comments by Lori L. Hadley and Ed H. Hodgens

Harbor erosion problem and the development/description of the recommended plan for shoreline stabilization.

Action required:

From Tom Martin

Response: The 'Conclusions" section has been supplemented with a paragraph summarizing physical processes, and another paragraph summarizing the recommended plan.

Appendix C

Bal Harbour DM ITR-(EN-HC)-40. - Appendix C - Arrows on some of the Wave Refraction vector plots are difficult to see.

Action required:

From Tom Martin

Response: Original printouts of the refraction diagrams are much clearer than the scanned version of the diagrams contained in the pdf files provided for review. The original figures will be used for reproduction of the final report to provide maximum clarity.

**DADE COUNTY, FLORIDA
BEACH EROSION CONTROL AND HURRICANE PROTECTION PROJECT
BAL HARBOUR DESIGN MEMORANDUM**

17 SEPTEMBER 2004

INDEPENDENT TECHNICAL REVIEW

Comments by William Fonferek

DM App A.pdf, Environmental Documentation

Bal Harbour DM_ITR-WF-01. Section 2.01. EA Alternative Selection. What specifically was eliminated and why?

Action required:

From Bill Lang

Response: Only one structural alternative was eliminated for environmental reasons and that was a geomat to beach alternatives.

Bal Harbour DM_ITR-WF-02. Section 5.00, Environmental Commitments. What are the specific commitments being made to protect species, mitigate impacts or meet WQ requirements?

Action required:

From Bill Lang

Response: Concur, coordination will be done with the draft EA and commitments will be expanded in Section 5.

Bal Harbour DM_ITR-WF-03. Section 6.00, Compliance with Environmental Requirements. How did you comply with each of the specific laws and regulations?

Action required:

From Bill Lang

Response: Concur; coordination is incomplete, as we have not been given permission to coordinate with all agencies.

Bal Harbour DM_ITR-WF-04. Section 7.00. Coordination. What specifically did you do to coordinate (dates), meetings, summaries, letters sent, phone conversations etc.?

Action required:

From Bill Lang

Response: Coordination is not complete; text will be revised until coordination is complete.

**DADE COUNTY, FLORIDA
BEACH EROSION CONTROL AND HURRICANE PROTECTION PROJECT
BAL HARBOUR DESIGN MEMORANDUM**

17 SEPTEMBER 2004

INDEPENDENT TECHNICAL REVIEW

Comments by William Fonferek

Bal Harbour DM_ITR-WF-05. EA Comment. Since there would be a discharge of dredged or fill material (groins), there should be a Section 404(b)(1) Evaluation with the document.

Action required:

From Bill Lang

Response: This will be left to the contractor, as we believe the work will be done above the Mean High Water Line.

**DADE COUNTY, FLORIDA
BEACH EROSION CONTROL AND HURRICANE PROTECTION PROJECT
BAL HARBOUR DESIGN MEMORANDUM**

20 SEPTEMBER 2004

INDEPENDENT TECHNICAL REVIEW

Comments by Karl Nixon

Bal Harbour DM_ITR-KN-01. After careful review of the documents provided, RE has no comments to the report. It appears that all lands are seaward of the MHL and all borrow sites will be located within navigational servitude. Access will be through a public park and according to the report will not impact the property landward of the vegetation line.

Action required: None

Response: None

**DADE COUNTY, FLORIDA
BEACH EROSION CONTROL AND HURRICANE PROTECTION PROJECT
BAL HARBOUR DESIGN MEMORANDUM**

17 SEPTEMBER 2004

INDEPENDENT TECHNICAL REVIEW

Comments by Phil Bates

Bal Harbour DM_ITR-PB-01. After careful review of Bal Harbour Design Memorandum CO-CQ has no comments.

Action required: None

Response: None

**DADE COUNTY, FLORIDA
BEACH EROSION CONTROL AND HURRICANE PROTECTION PROJECT
BAL HARBOUR DESIGN MEMORANDUM**

17 SEPTEMBER 2004

INDEPENDENT TECHNICAL REVIEW

Comments by Brian Hughes

Bal Harbour DM_ITR-BH-01. No comments.

Action required: None

Response: None

**DADE COUNTY, FLORIDA
BEACH EROSION CONTROL AND HURRICANE PROTECTION PROJECT
BAL HARBOUR DESIGN MEMORANDUM**

17 SEPTEMBER 2004

INDEPENDENT TECHNICAL REVIEW

Comments by Rafael Velez

Bal Harbour DM_ITR-RV-01. After review of Bal Harbour Design Memorandum EN-TI has no comments.

Action required: None

Response: None